UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

February 9, 2009

Ms. Tori K. White
Chief, Palm Beach Gardens
U.S. Army Corps of Engineers
Jacksonville District
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, FL 33410

ATTN: Ms. Alisa Zarbo

Subject: USEPA's Review of the COE's FEIS "To Construct Stormwater Treatment Areas on Compartments B and C of the Everglades Agricultural Area, Florida"; Palm Beach and Hendry County, FL; CEQ# 20090000; ERP# COE-E39074-FL

Dear Ms. White:

Pursuant to Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) has reviewed the U.S. Army Corps of Engineers' (COE) Final Environmental Impact Statement (FEIS) for the subject project. USEPA has previously reviewed numerous COE NEPA documents proposing the Comprehensive Everglades Restoration Plan (CERP) construction and operation of Stormwater Treatment Areas (STAs) and associated reservoirs. We have provided comments on the Draft EIS (DEIS) for this project in a letter dated July 28, 2008. The current STA proposal is not one of the original CERP projects identified in the Restudy. However, it is a State of Florida "Acceler8" project designed to expedite water quality benefits under CERP and it is consistent with the requirements of the Everglades Forever Act (EFA). The South Florida Water Management District (SFWMD) is the COE Applicant and Sponsor for this proposal.

Perspective

USEPA fully supports the concept and implementation of STA expansion and additional STAs to improve Everglades water quality consistent with the EFA and CERP. The present proposal would provide two additional STAs totaling 11,667 acres of effective treatment area as Compartments B and C in the Everglades Agricultural Area (EAA). The Compartment B STA (6,817 ac) would expand and facilitate the phosphorus reduction functions of existing STA-2, which discharges into Water Conservation Area (WCA)-2A. Similarly, Compartment C STA (4,850 ac) would expand and facilitate the existing phosphorus reduction functions of existing STA-5 and STA-6, which ultimately discharge into WCA-3A.

Even with the proposed STA projects, additional phosphorus removal will be necessary to meet the TP criterion in water delivered into the Everglades Protection Area (EPA). In 2005, Florida adopted and USEPA approved a 10 parts per billion (ppb) TP criterion (long-term geometric mean measured in the marsh) for the EPA. This criterion applies throughout all of the EPA, including impacted and unimpacted areas. The concentration of TP in the discharge from each STA will be determined by Water Quality Based Effluent Limits (WQBELs) for all STAs that discharge into the EPA. Florida must establish these WQBELs by December 31, 2010.

We also believe that there is need for additional water quality treatment beyond the existing and proposed STAs. We are therefore encouraged that the State of Florida may purchase up to 187,000 acres of agricultural lands within the EAA which could allow future construction of additional STAs (onsite or through land exchanges) to further improve Everglades water quality. We also wish to emphasize the need for continued implementation and improvement of nutrient source-reduction BMPs upstream of the STAs as required by the EFA, such that STAs would function more effectively in reducing the nutrient-ladened waters to desired water quality levels.

For our NEPA review of this FEIS, USEPA has reviewed the COE's responses to our comments on the DEIS found in Appendix F (pg. F-19). Our comments on the remaining COE responses of concern are provided below. These primarily concern water quality and wetlands mitigation and the associated preferred alternative selection.

Water Quality

We note that some of our water quality comments were not addressed in Appendix F. Specifically, on page 4 of our DEIS letter, we stated:

> * <u>Water Quality</u> – *USEPA is also concerned that the proposed Compartment B expansion includes a proposed extension of the South Florida Water Management District's WCA 2A Hydropattern Restoration works, located along the L-6 borrow levee, adjacent to WCA 2A, just to the northeast of the S-7 pump structure.*[1] *The existing condition is a 4,800-foot long degraded section of the East L-6 Levee, which allows STA-2 discharge water to directly enter impacted (cattail) marsh areas in WCA 2A. USEPA understands that the DEIS is proposing an approximate 10,400-foot long additional degradation of the East L-6 levee to the north. The resultant East L-6 Levee degradation would be approximately 15,000-feet long. Our concern is that such a levee degradation expansion to the north would allow STA-2 treated waters (average 41 ppb TP in Water Year 2007) to directly enter unimpacted sawgrass marsh in WCA 2A. However, the TP criterion that applies throughout the EPA is a long-*

[1] *It is unclear whether the Hydropattern Restoration moderating provision (variance policy) contained in the Phosphorus Rule will be applied in this context.*

term mean of 10 ppb and impacted WCA marsh is defined as having soils with greater than 500 mg/kg TP.[2]

USEPA recommends that the FEIS address this issue in terms of possible discharge alternatives or other measures for this portion of the project. USEPA is opposed to any East L-6 Levee degradation that would allow treated STA-2 discharge waters at elevated TP concentrations to directly enter unimpacted sawgrass marsh (soil TP below 500 mg/kg TP) in WCA 2A if excess phosphorus in the discharge would result in impacts. In addition, USEPA would be opposed to any East L-6 Levee degradation that would allow treated STA-2 discharge waters to enter an impacted area if the excess phosphorus in the discharge causes further expansion of the impacted area into unimpacted areas.

USEPA also notes that the NPDES permit for the original STA construction included certain special conditions regarding downstream monitoring of the STA discharges, including discharges associated with hydropattern restoration. This monitoring requirement was intended to ensure that additional water quality impacts did not occur as a result of the STA discharges or any hydropattern restoration feature. It is not clear how these conditions will be met for these hydropattern restoration features.

USEPA continues to be opposed to any East L-6 Levee degradation that would allow treated STA-2 discharge waters at elevated TP concentrations to directly enter unimpacted sawgrass marsh and that would allow treated STA-2 discharge waters to enter an impacted area if the excess phosphorus in the discharge causes further expansion of the impacted area into unimpacted areas. We also question the timing of the levee degradation request. According to the schedule for compliance in the Administrative Order attached to the NPDES permit for STA-2, the STA-2 internal enhancements are not due to be completed until December 2012 with Compartment B not achieving stabilization until December 2016. The timing of the hydropattern restoration feature is linked in the Fact Sheet to the completion of internal enhancements, and the need for additional hydraulic capacity is linked to completion of Compartment B. It should be noted that the current Florida Department of Environmental Protection (FDEP) National Pollutant Discharge Elimination (NPDES) permit issued to SFWMD pertaining to the East L-6 Levee references the Hydropattern Restoration Works as part of the STA-2 Project and refers the reader to the Fact Sheet attached to the permit for more details. In the Fact Sheet on Page 4, the WCA 2A Hydropattern Restoration Works is described in detail. The discussion notes that the current discharge discharges into previously impacted areas since there was concern with the potential impact of discharging into unimpacted areas prior to full compliance with water quality standards. The Fact Sheet goes on to note:

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[2] *USEPA notes that under the Phosphorus Rule, any individual station identified as impacted based on the soil levels that achieves a water column 5 year GM of 10 ppb and an annual GM of 15 ppb is considered unimpacted.*

"It is intended that, upon completion of the STA-2 enhancements, STA-2 discharges will fully comply with permit effluent limit[s]. The Long-Term Plan for completion of the WCA-2A Hydropattern Restoration consists of construction of additional culverts through the East Levee L-6 over that length (approximately 18,000 ft.) of the WCA-2A excluded from the original construction. It is anticipated that a total of 6 culverts (10' x 5') reinforced concrete boxes similar to G-336 (A-F) will serve that purpose."

Accordingly, therefore, in order to degrade the levee as proposed, the NPDES permit would need to be modified. As a State issued NPDES permit, FDEP would need to administer such a permit modification. However, such a modification would also need to be approved by USEPA given our oversight of the NPDES Program. Based on the water quality impacts of the proposed levee degradation on unimpacted waters, USEPA does not expect to approve such a modification until discharge water quality improves. In contrast and consistent with the current permit, we do believe that the East L-6 Levee could be further culverted once the discharge water is sufficiently low in phosphorus to further hydrate downstream waters.

In addition to this NPDES permit concern, our remaining water quality concerns regarding the proposed discharges can be summarized as follows. These comments support the NPDES permit as currently written, the maintenance of a functional East L-6 Levee, and the avoidance of discharges of elevated phosphorus waters above an effluent limit derived from the phosphorus criterion (10 ppb) into unimpacted areas.

- USEPA is very concerned that the proposed Compartment B expansion includes lengthening the South Florida Water Management District's WCA-2A Hydropattern Restoration works, located along the L-6 borrow levee, adjacent to WCA-2A, just to the northeast of the S-7 pump structure.[3] The existing condition is a 4,800-foot long degraded section of the East L-6 Levee, which allows STA-2 discharge water to directly enter impacted (cattail) marsh areas in WCA-2A. The FEIS is proposing an approximate 10,400-foot long additional degradation of the East L-6 levee to the north. The resultant East L-6 Levee degradation would be approximately 15,000-feet long. Our concern is that this levee degradation expansion to the north will allow STA-2 treated waters to directly enter unimpacted sawgrass marsh or wet prairie in WCA-2A. The most recent soil phosphorus data and classified vegetation maps of WCA-2 from SFWMD clearly indicate that the WCA-2A marsh is unimpacted downstream of the proposed levee degradation.
- The TP criterion that applies throughout the EPA is a long-term mean of 10 ppb and impacted WCA marsh is defined as having soils with greater than

[3] It is unclear whether the Hydropattern Restoration moderating provision (variance policy) contained in the Phosphorus Rule will be applied in this context.

500 mg/kg TP.[4]

- The major problem with this proposal is that if there would be no structural capability to halt the flow into the unimpacted WCA-2 marsh if STA-2 discharges at high phosphorus concentrations, such as an annual average of 41 ppb, as it did in Water Year (WY) 2007, with monthly averages as high as 56 ppb.
- There has been no scientific basis presented that justifies the need for "hydropattern restoration" in this portion of WCA-2A, either because of defective hydropattern or vegetation community stress. USEPA continues to request such information from Florida; however, this information is not contained in the FEIS. The SFWMD's 2008 report on the previous hydropattern restoration of impacted areas in WCA-2A documents increases in water depth of over 1 foot in WCA-2A. It may be that current hydropattern restoration efforts have been effective enough that there is no ecological justification for the proposed levee degradation. In fact, hydroperiod that is too deep has been shown in numerous Everglades publications to change vegetation communities, regardless of phosphorus conditions.
- There are over 20 Everglades publications concerning hydroperiod and nutrient effects on vegetation. None are cited in the FEIS. These publications indicate that deeper water favors conversion to cattail, even with low phosphorus; deeper water favors conversion of sparse sawgrass to dense sawgrass; and deeper water can inhibit sawgrass establishment.
- The same hydropattern restoration project was proposed by Florida in 1996 as part of the Everglades Construction Project. In 1996, there were public workshops held, evaluations performed, and the SFWMD completed a report: *Evaluation of benefits and impacts of the hydropattern restoration components of the Everglades Construction Project, September 13, 1996.* The overarching objective is ecological restoration of the oligotrophic Everglades wetlands, which would require that the hydropattern restoration be accomplished with clean water. The purpose of the 1996 evaluation was to provide reasonable assurance that the benefits of the hydropattern restoration levee degradation outweighed the potential adverse impacts of implementing the program. Modeling indicated that discharges of 30 ppb water into unimpacted WCA-2A would result in a range of 0 acres of new cattail (17-year time lag) to 3000 acres (no lag). This is the most recent evaluation provided. There was a consensus decision reached in 1996 by federal and Florida agencies that the potential adverse impacts of hydropattern restoration into unimpacted areas outweighed the benefits, so STA discharges were allowed only into areas that were already impacted. Consequently, the only hydropattern restoration discharges authorized to date are those into impacted areas with soil phosphorus >500 mg/kg.
- A 2008 journal publication[5] by SFWMD scientists on phosphorus impacts on periphyton and macrophytes in WCA 2A considers the question of restoring flow

[4] USEPA notes that under the Phosphorus Rule, any individual station identified as impacted based on the soil levels that achieves a water column 5 year GM of 10 ppb and an annual GM of 15 ppb is considered unimpacted.

with water enriched with phosphorus. They concluded that their findings support the need for Everglades hydrologic restoration efforts to adhere to strict water-quality standards for phosphorus to avoid further degradation of key landscape features such as sloughs.

Wetlands Mitigation

In addition to water quality, the USEPA continues to have concerns with the level of wetlands mitigation proposed for this project. The response to comment "EPA-1" in Appendix F does not propose any mitigation for wetlands impacted by the construction of the proposed STA cells and levees. We can appreciate that the STAs would provide overall wetland restoration benefits to the Everglades and these benefits may be documented. Wetland compensation is required for wetland losses within an STA cell and its levees because existing jurisdictional wetlands would be converted to non-jurisdictional wetlands within the STAs or would be filled by levee (berm) construction. As indicated in our DEIS NEPA comment letter dated July 28, 2008, "STA mitigation should account for both the structural footprint (levees, etc.) as well as the onsite wetlands that would be flooded or inundated." Moreover, we do not believe that the SFWMD Applicant is eligible for mitigation credits for downstream hydropattern restoration for the delivery of high phosphorus waters into unimpacted areas (e.g., proposed levee degradation). Instead, such a discharge would constitute a water quality impact. The Applicant could, however, receive credit for downstream hydropattern restoration of wetlands if elevated phosphorus waters were delivered to still impacted areas in need of hydration.

In regard to the guidance referenced in our DEIS NEPA comment letter (*Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat*), response "EPA-1" states that "[i]t should also be noted that this USEPA guidance is not binding on the Corps." We disagree, as this is not just USEPA policy. Instead, this is joint interagency workgroup policy and should therefore be followed for this and other relevant proposed projects.

We understand that the COE maintains that the STAs need to be counted as flooded areas for this proposed project in order to meet project wetland mitigation requirements. However, this appears to be inconsistent with Table 5.1 which shows that excess mitigation credits would be generated for this project if the STAs are counted. This is also inconsistent with the original Section 404 permit for the STAs. EPA has concerns with any proposal to count non-jurisdictional wetlands as mitigation credit to off-set impacts, particularly when those wetlands are part of a treatment system.

Finally, the USEPA also believes that a mitigation plan for nuisance species (and opposed to just for invasive species) such as cattails should be developed for any areas

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[5] McCormick, Paul V., Susan Newman and Les K. Vilchek. 2008. Landscape responses to wetland eutrophication: loss of slough habitat in the Florida Everglades. Hydrobiologia DOI 10.1007/s10750-008-9635-2.

that the COE proposes to count as mitigation. We are pleased to understand that this is already planned.

Alternatives

Because of our water quality concerns, the USEPA does not support parts of Alternative B, which is identified in the FEIS as being the preferred alternative of the COE's SFWMD Applicant. Although we agree with the construction of Compartment B, we recommend that the present levee degradation proposal be abandoned and other discharge alternatives be considered. USEPA is opposed to any East L-6 Levee degradation or other project that will allow treated, uncontrollable, STA-2 discharge waters at elevated TP concentrations to directly enter unimpacted sawgrass marsh (soil TP below 500 mg/kg TP) in WCA-2A if excess phosphorus in the discharge would result in impacts. In addition, USEPA would be opposed to any East L-6 Levee degradation that would allow treated STA-2 discharge waters to enter an impacted area if the excess phosphorus in the discharge causes further expansion of the impacted area into unimpacted areas.

Moreover, if science can be presented to justify hydropattern restoration to unimpacted Everglades, , then any alternative selected by SFWMD must include the structural capability and operation flexibility to shut down the hydropattern restoration if for some reason STA-2 is not performing well, as was the case in WY2007. Under this scenario, STA outflow water would be only discharged directly into impacted areas or canals, as it is now. A trigger STA outflow TP concentration could be established and incorporated in the permits. At discharges above this trigger, the hydropattern restoration would be halted temporarily, thereby assuring the protection of the EPA marshes that the Compartment B and C project is intended to protect and restore.

The USEPA therefore encourages the COE's selection of an alternative in its Record of Decision (ROD) that authorizes construction of Compartments B and C, but avoids levee degradation and discharge into unimpacted areas. However, of the alternatives still considered in the FEIS (Alts. D-1 and F were eliminated), it appears that only Alternative E would not degrade the East L-6 Levee, as this alternative does not propose Compartments B and C and would instead expand STA-1E/STA-1 for WCA-1. While Alternative E appears to be useful as a separate Everglades water quality project, it does not appear to be an appropriate alternative for this EIS addressing STA Compartments B and C.

Events Since FEIS Issuance

Both the COE and the SFWMD have had discussions with EPA since the issuance of the FEIS. These discussions have been helpful in better understanding our water quality and wetlands concerns. The topics of these discussions have included:

* NPDES Permit –That the current NPDES permit would not allow degradation of the East L-6 Levee and identified the construction of box culverts for hydropattern restoration, only after internal enhancements to STA-2 were completed and functioning.

* STA Wetlands Mitigation – The COE acknowledges that the STA wetland mitigation guidance cited in our DEIS letter (*Guiding Principles for Constructed Treatment Wetlands: Providing for Water Quality and Wildlife Habitat*) is not just internal EPA guidance but rather joint interagency workgroup policy relevant to STA wetland impacts.

* SFWMD Comment Letter – USEPA very recently received a copy of the February 6, 2009 SFWMD's FEIS comment letter to Colonel Grosskruger. That letter notes that the SFWMD "is currently considering refining Compartment B's design to address concerns raised by Florida Department of Environmental Protection, U.S. Fish and Wildlife Service and the U.S. Environmental Protection Agency.... The design refinements are related to the degradation of the L-6 levee adjacent to WCA2A."[6]

Despite this better understanding among the agencies, EPA remains concerned that the FEIS is not written pursuant to these new acknowledgements and that Alternative B (and presumably also action Alternatives C and D) proposes to degrade the East L-6 Levee and discharge high phosphorus water into unimpacted areas of WCA-2A. To resolve these issues within a minimal amount of time (so that STA Compartments B and C can be responsibly constructed to help restore the Everglades consistent with EFA, CERP, Florida water quality standards, NPDES permit and NEPA), we believe there are two approaches to address this issue.

EPA Recommendations

USEPA recommends that the SFWMD's Preferred Alternative B – which we in principle support due to its water quality benefits – should be reconfigured to abandon its levee degradation component so that high phosphorus water is not discharged into unimpacted areas of WCA-2A (directly) or into still impacted areas that would be expanded into unimpacted areas (indirectly). Because of the water quality significance of this modification and the conditions of the current NPDES permit, the preferred approach would appear to be the preparation of a Supplemental NEPA document describing a "Modified Alternative B" alternative. If time is a concern, the COE could alternatively consider issuing a draft ROD describing the "Modified Alternative B" alternative for our review and any other interested agencies. Once this aspect of the ROD is agreed upon, a final ROD could be prepared. In order to achieve a full public review, we also recommend that the final ROD be made available to the public to the same extent as the DEIS and FEIS. Whichever course the COE takes, USEPA is willing to work closely with the COE and the other resource agencies to expedite this process.

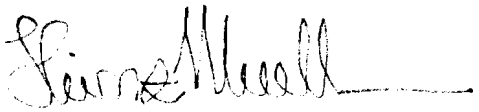
[6] The letter also takes the position that the wetlands impacted by the construction of Compartment B and C are "Prior Converted Croplands" (PC) and therefore not jurisdictional. Although not the subject of this letter, the USEPA disagrees with that conclusion and has not seen any documentation that these waters are PC.

Summary

USEPA remains fully supportive of the construction of the proposed STAs. However, despite discussions since the issuance of the FEIS, we do not find the FEIS to be responsive to our water quality or wetland mitigation concerns as written. We therefore continue to have water quality concerns regarding the discharge of STA waters into unimpacted areas as well as certain impacted areas that would thereby be expanded into unimpacted areas, and the lack of proposed mitigation for expected project wetland losses. Accordingly, we do not support Alternative B as currently proposed but believe that Alternative B can be modified to be acceptable. Accordingly, USEPA recommends that Alternative B be reconfigured to remove the levee degradation component and that this "Modified Alternative B" be addressed in a Supplemental NEPA document or, alternatively, in a draft ROD circulated to USEPA and any other interested agencies for review and followed by an agreed-upon final ROD made available to the public. We also suggest that this process be feasibly expedited to allow these important STA Component B and C projects to be implemented to further reduce overall phosphorus levels in the Everglades consistent with the EFA and CERP.

We appreciate the opportunity to review the FEIS. Should you have questions regarding these comments, feel free to contact Chris Hoberg of my staff for NEPA issues (404-562-9619 or hoberg.chris@epa.gov), and Eric Hughes (located in the Jacksonville District office: 904/232-2464 or hughes.eric@epa.gov) or Dan Scheidt (706/355-8724 or scheidt.dan@epa.gov), who are both in our USEPA Water Protection Division for technical issues.

Sincerely,



Heinz J. Mueller, Chief
NEPA Program Office
Office of Policy and Management

cc: Joan Lawrence (DOI: Miami, FL)
Paul Souza (USFWS: Vero Beach, FL)